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A Checklist and Key to the Crustacea Isopoda of New Zealand and the Subantarctic Islands

By D. E. HURLEY,

N.Z. Oceanographic Institute, Wellington

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*Abstract*

A checklist and key is given to the 78 genera and 168 species of Crustacea Isopoda recorded from New Zealand and the Subantarctic Islands.

INTRODUCTION

It is now some seventy-five years since Thomson and Chilton (1886) first issued their checklist of the Crustacea Isopoda of New Zealand, in which they recorded some 60 species. Since then, the number of recorded species has increased to 168, described and discussed, as the list of references indicates, in a great variety of papers, many of which were published outside New Zealand. As yet, there is no monograph of the New Zealand species and the limited number of reviews of New Zealand families or genera subsequently published are not sufficiently recent to be of much value. One, at least, is quite misleading.

As a first step towards a review, the following checklist has been prepared. For this purpose, the New Zealand and Subantarctic Islands Region has been taken to be that area between latitudes 28° S and 54° S and longitudes 160° E to 174° W. This includes Norfolk Island, the Kermadec Islands, the Chathams, The Snares, The Bounties, the Antipodes and Auckland and Campbell Islands. It excludes Lord Howe and the Macquarie Islands.

Many of the early descriptions, as one might expect, are often unhelpfully brief and poorly illustrated, yet the species themselves are often sufficiently distinctive in shape and ornamentation to be identified with some confidence by the non-specialist. A list of common species and a comprehensive key to the hitherto recorded New Zealand species, to be used in conjunction with the checklist, have therefore been included. However, it should not be immediately assumed that a specimen belongs unquestionably to the species which the key indicates until it has been checked against its description; many more species remain to be described from this region. It is also possible, since many of the original descriptions were

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so brief and deficient in generic characteristics, that a species, which can be easily identified by its body sculpture, will key out to a different genus from that indicated by the checklist. Where there are reservations about generic status these have been indicated in the checklist, but there may well be others in this category of which the author is at present unaware.

The list of literature cited under each species does not constitute a full bibliography; this may be obtained by consulting the skeleton bibliography after the species name which has been selected to give the original description (usually), the most helpful subsequent comments, and the most recent relevant works. Where references have been given to more than one set of illustrations, the more useful or, in some instances, the more easily accessible paper has been asterisked.

The classification into suborders, tribes and families has, in the main, been adopted from an unpublished paper very generously lent by its author, Dr. Robert J. Menzies.

As far as possible, technical terms have been omitted or reduced to a minimum in the key. Where there is ambiguity, it is more likely to be the fault of the author than that of the terminology adopted.

No key is given to the Oniscoidea—the terrestrial and littoral Isopods. For this, the reader is referred to one previously published in *Tuatara*—“New Zealand Terrestrial Isopods” (Hurley, 1950, Vol. 3 (3): 115–127).

The keys to the other tribes and families have been freely adapted from those for Australian and South African genera published by Hale and Barnard.

Finally, the reader is reminded that Hale's papers on Australian Isopods are extremely useful in identifying New Zealand species since his keys and illustrations include a number of species common to both countries.

#### COMMON SPECIES

The following list indicates some of the more common species in various environments:

**TERRESTRIAL.** Around houses and under rotting wood, the introduced species *Porcellio scaber* (the common woodlouse or “slater”) and *Armadillidium vulgare*; in leafmould or native bush—any of the numerous native species.

**SUPRALITTORAL.** *Pseudaega punctata*; *Tylos neozelanicus* (“under tussocks”); *Actaecia euchroa*, found on sandy beaches, often rolled into a ball and skidding along the beach pushed by the wind; *Scyphax ornatus*, characterized by a long eye of up to 200 ocelli in four bands along each side of the head; the silverfish-like *Ligia novaezealandiae*.

**FRESH-WATER.** *Cruregens fontanus* (wells and artesian water, Canterbury); species of the Family Phreatoicidae.

**BRACKISH-WATER.** The Idoteid, *Notidotea lacustris*.

**INTERTIDAL.** *Sphaeroma quoyana* (a pill-bug burrowing often in sandstone or wood); the spider-like *Munna neozelanica*; the large pill-bug *Exosphaeroma gigas*; *Isocladus armatus* and *I. spiniger* (each with a long spine arising from the middle of the back); *Cymodoce bituberculata*; *Cilicaea canaliculata* and *C. latreillei* (with thick furry uropods); *Dynamenella huttoni*; *Amphoroidea falcifer*, which has the peduncles of the antennae produced in two large squarish plates in front of the head; the thin, flat, oval, disc-like *Plakartrhium typicum* with an outer ring of segmental plates around the body, found adhering to seaweed fronds.

**INFRALITTORAL AND SHALLOW-WATER.** Species of *Astacilla* which resemble L-shaped stick-insects, walking on their hind legs; the large, long, green cylindrical Idoteid, *Paridotea unguilata*, common on *Macrocystis*; the reddish Idoteid, *Euidotea peronii*, found on red seaweed; various free-swimming fish-lice of the genus *Cirolana*; the thin, flat, disc-like *Cassidina typa* which has small multi-coloured spots on its back.

**PARASITIC AND COMMENSAL.** Free-swimming fish-lice—various *Cirolana* species; the flesh-burrowing, symmetrical *Nerocila orbignyi* and the distorted *Livoneca raynaudii*; *Iais californica* and *I. pubescens*, commensal on sphaeromid (pill-bug) isopods, especially around the pleopods; *Antias unirameus*, commensal on the sea-cucumber, *Stichopus mollis*.

**BORERS.** The pill-bug *Sphaeroma quoyana*, in wood and sandstone; *Limnoria quadripunctata* ("gribble") in wood; *L. segnis* and *L. stephensi* in algal hold-fasts.

### Order ISOPODA

#### Suborder GNATHIIDEA

##### Family GNATHIIDAE

##### Genus THAUMASTOGNATHIA Monod

##### 1. *Thaumastognathia diceros* Monod

Monod, 1926: 304–307, figs. 124–125. Nierstrasz, 1941: 238.  
Three Kings, 118 m.

##### Genus GNATHIA Leach

##### 1. *Gnathia akaroensis* Monod

Monod, 1926: 439–443, figs. 178–180C. Nierstrasz, 1941: 236.  
Akaroa Harbour, 10 m.

##### 2. *Gnathia brachyuropus* Monod

Monod, 1926: 579–580, fig. 180D–F. (Known from Praniza lava only.) Nierstrasz, 1941: 236.

Akaroa: 10 m; Lyttelton.

##### 3. *Gnathia pacifica* Monod

Monod, 1926: 449–451, fig. 185. Nierstrasz, 1941: 236.  
Colville Channel, 64 m.

##### 4. *Gnathia polythrix* Monod

Monod, 1926: 367–371, figs. 144–145B. Nierstrasz, 1941: 236.  
Three Kings, 118 m.

##### 5. *Gnathia regalis* Monod

Monod, 1926: 532–536, figs. 145B, 239–241. Nierstrasz, 1941: 236.  
Three Kings, 118 m.

#### Suborder QUATUOR DECAPODA (or TETRACERA)

##### Tribe ASELLOTA

##### Subtribe STENETRIOIDEA

##### Family STENETRIIDAE

##### Genus STENETRIUM Haswell

##### 1. *Stenetrium fractum* Chilton

Chilton, 1884: 251–252, pl. 18, figs. 3a–f. Nierstrasz, 1941: 281.  
Lyttelton Harbour.

## Subtribe PARASELLOIDEA

## Family IANIRIDAE

## Genus IANIRA Leach

1. *Ianira (Iathrippa) longicauda* (Chilton)

Chilton, 1884: 250–251, pl. 18, fig. 2b–b. Thomson, 1889: 265–266. Tattersall, 1921: 200, pl. 1, fig. 6. \*Nordenstam, 1933: 173–176, figs. 40a–h. Nierstrasz, 1941: 286. Hurley, 1957: 17–18, figs. 92–107.

Lyttelton; Terra Nova Sta. 96, 7 miles E. of North Cape, 70 fms.; Campbell Island.

2. *Ianira (Ianira) neglecta* Chilton

Chilton, 1909: 648–649, figs. 13a–b. Stephensen, 1927: 355. Nierstrasz, 1941: 283. Masked I., Carnley Harbour, Auckland Islands; Port Chalmers, Lyall Bay, New Zealand.

Genus IAIS<sup>1</sup> Bovallius1. *Iais californica* (Richardson)

Chilton, 1912: 132, 134. Hurley, 1956: 715–718, figs. 1–13.

On *Sphaeroma quoyana*, Hutt River; Marlborough Sounds; Hawke's Bay.

2. *Iais pubescens* (Dana)

Chilton, 1892: 266–267. Chilton, 1909: 649–650. Monod, 1931: 11. Nordenstam, 1933: 178–179, figs. 41a–c. Nierstrasz, 1941: 287. \*Menzies & Barnard, 1951: 138–141, pls. 42–43. Hurley, 1956: 718. Naylor, 1961: 15–16, fig. 6.

Chatham Islands; Campbell Island; Auckland Island; on *Exosphaeroma gigas*; *Isocladus armatus*; *Exosphaeroma lanceolatum*; *Isocladus spiniger*.

## Family JAEROPSIDAE

## Genus JAEROPSIS Koehler

1. *Jaeropsis curvicornis* (Nicolet)

Stebbing, 1905: 51–52, pl. 11C. Chilton, 1912: 133. Nierstrasz, 1941: 288. Akaroa; Taylor's Mistake; Lyall Bay.

2. *Jaeropsis palliseri* Hurley

Hurley, 1957: 18–19, figs. 67–73, 108–117. Cook Strait.

## Family ANTIASIDAE

## Genus ANTIAS Richardson

1. *Antias hispidus* Vanhöffen

Stephensen, 1927: 356–357, fig. 24. Nierstrasz, 1941: 385. Menzies and Miller, 1955: 385.

Carnley Harbour, Auckland Island.

2. *Antias unirameus* Menzies & Miller

Menzies & Miller, 1955: 385–389, figs. 1–2.

Island Bay, commensal on holothurian *Stichopus mollis*.

## Family MUNNIDAE

## Genus MUNNA Kröyer

1. *Munna neozelanica* Chilton

Chilton, 1892: 268–269. \*Chilton, 1892: 2–12, pls. 1–2. Chilton, 1912: 132. Stephensen, 1927: 357–8. Monod, 1931: 14, fig. 8c–e. Nierstrasz, 1941: 289.

Port Chalmers and Brighton, near Dunedin, "between tidemarks on surface of stones and boulders under mass of decaying *Boltenia* washed upon beach" and in rock pool; Waikawa Bay, Queen Charlotte Sound; Portage, Kenepuru Sound; Masked Island, Carnley Harbour, Port Ross, Auckland Island; Campbell Island.

<sup>1</sup> I have preferred to omit from this list any of the "Species Inquirendae" of Menzies and Barnard, 1951, or Hurley, 1956.

2. **Munna schauinslandi** Sars

Sars, 1905: 372–375, pl. 14, figs. 1–12. Monod, 1931: 18. Nierstrasz, 1941: 290. Chatham Island.

Genus **PARAMUNNA** Sars1. **Paramunna serrata** (Richardson)

\*Richardson, 1908: 5–6, figs. 6–7. Stephensen, 1927: 359–360, fig. 25. Nierstrasz, 1941: 291.

Carnley Harbour, Auckland Island, under stones at low tide.

## INCERTAE SEDIS

Genus **ACANTHOMUNNA** Beddard1. **Acanthomunna proteus** Beddard

Beddard, 1886: 47–50, pl. 12, figs. 7–14. Nordenstam, 1933: 198. Nierstrasz, 1941: 198.

Challenger Sta. 168, 40° 28' S, 177° 43' E, 1,100 fms; Sta. 169, 37° 34' S, 179° 22' E, 700 fms.

Family **EURYCOPIDAE**Genus **STORTHYNGURA** Vanhöffen1. **Storthyngura bentii** Wolff

Wolff, 1956: 112–116, figs. 29–33.

Kermadec Trench, Galathea Sta. 651, 32° 10' S, 177° 14' W, 6,960–7,000 m; Sta. 658, 35° 51' S, 178° 31' W, 6,660–6,720 m; Sta. 650, 32° 20' S, 176° 54' W, 6,620 m; Sta. 654, 32° 10' S, 175° 54' W, 5,850 m; Sta. 661, 36° 07' S, 178° 32' W, 5,340 m.

2. **Storthyngura furcata** Wolff

Wolff, 1956: 119–121, figs. 35–36.

Kermadec Trench, Galathea Sta. 658, 35° 51' S, 178° 31' W, 6,660–6,720 m; Sta. 654, 32° 10' S, 175° 54' W, 5,850 m.

3. **Storthyngura novae-zelandiae** (Beddard)

\*Beddard, 1886: 61–63, pl. 9, figs. 1–7. Nierstrasz, 1941: 296. Wolff, 1956: 121–123, fig. 37.

Challenger Sta. 168, 40° 28' S, 177° 43' E, 1,100 fms.

4. **Storthyngura pulchra** (Hansen)

Hansen, 1897: 97–100, pl. 1, figs. 1–14. Nierstrasz, 1941: 296. Wolff, 1956: 116–118.

Kermadec Trench, Galathea Sta. 650, 32° 20' S, 176° 56' W, 6,620 m.

Genus **EURYCOPE** Sars1. **Eurycope galatheae** Wolff

Wolff, 1956: 136–137, figs. 48–49.

Kermadec Trench, Galathea Sta. 651, 32° 10' S, 177° 14' W, 6,960–7,000 m.

2. **Eurycope madseni** Wolff

Wolff, 1956: 125–127, fig. 39.

Kermadec Trench, Galathea Sta. 651, 32° 10' S, 177° 14' W, 6,960–7,000 m.

3. **Eurycope nodifrons** Hansen

Hansen, 1916: 140–141, pl. 13, figs. 1a–d. \*Wolff, 1956: 123–125, fig. 38.

Kermadec Trench, Galathea Sta. 651, 32° 10' S, 177° 14' W, 6,960–7,000 m.

Family **MUNNOPSISIDAE**Genus **MUNNOPSIS** Sars1. **Munnopsis gracilis** Beddard

Beddard, 1886: 51–52, pl. 14, figs. 9–10. Nierstrasz, 1941: 297.

Challenger Sta. 168, 40° 28' S, 177° 43' E, 1,100 fms.

Family **ILYARACHNIDAE**Genus **ILYARACHNA** Sars

1. *Ilyarachna antarctica* Vanhöffen

\*Vanhöffen, 1914: 591–592, figs. 124 a–b. Nordenstam, 1933: 265–266, figs. 76 a–d. Wolff, 1956: 106–111, figs. 24–28.

Kermadec Trench, Galathea Sta. 651, 32° 10' S, 177° 14' W, 6,960–7,000 m; Galathea Sta. 658, 35° 51' S, 178° 31' W, 6,660–6,720 m; Galathea Sta. 664, 36° 34' S, 178° 57' W, 4,510–4,570 m.

## Family ISCHNOSOMIDAE

## Genus ISCHNOMESUS Richardson

1. *Ischnomesus bruuni* Wolff

Wolff, 1956: 91–94, figs. 5–7.

Kermadec Trench, Galathea Sta. 651, 32° 10' S, 177° 14' W, 6,960–7,000 m.

2. *Ischnomesus spärcki* Wolff

Wolff, 1956: 94–97, figs. 8–11.

Kermadec Trench: Galathea Sta. 651, 32° 10' S, 177° 14' W, 6,960–7,000 m; Galathea Sta. 658, 35° 51' S, 178° 31' W, 6,660–6,720 m.

## Tribe VALVIFERA

## Family ASTACILLIDAE (= ARCTURIDAE)

## Genus ASTACILLA Cordiner

1. *Astacilla falclandica* (Tattersall)

\*Tattersall, 1921: 244, pl. 10, figs. 1–3. Nordenstam, 1933: 119–122, figs. 28a–c. Nierstrasz, 1941: 256. Hale, 1946: 171–2.

Terra Nova Sta. 96, 7 m E of North Cape, 70 fms, bottom fauna.

2. *Astacilla fusiformis*<sup>2</sup> Hale

Hale, 1946: 185–7, fig. 14.

Man o' War Bay; Hauraki Gulf.

3. *Astacilla levii* Thomson & Anderton

Thomson & Anderton, 1921: 114–5, text-fig. \*Hurley, 1956: 13–15, figs. 50–66. Cook Strait; Otago Heads.

4. *Astacilla tuberculata*<sup>2</sup> (Thomson)

\*Thomson, 1879: 416–7, pl. 19, figs. 1–4. Thomson, 1881: 206, pl. 7, fig. 2. Filhol, 1885: 437.

Dunedin Harbour, 4–5 fms.

## Genus PSEUDARCTURELLA Tattersall

1. *Pseudarcturella chiltoni* Tattersall

Tattersall, 1921: 245–6, pl. 10, figs. 4–11. Nierstrasz, 1941: 257.

Terra Nova Sta. 135, Spirits Bay, nr. North Cape, 3 m, tow-net at night.

## Genus ANTARCTURUS zur Strassen

1. *Antarcturus abyssicola* (Beddard)

Beddard, 1886: 98–99, pl. 21, figs. 5–8. Nierstrasz, 1941: 259. Chatham Islands, 1,512 m.

2. *Antarcturus myops* (Beddard)

Beddard, 1886: 100, pl. 22, figs. 5–8; pl. 25, fig. 8.

Challenger Sta. 169, 37° 34' S, 179° 22' E, 700 fathoms.

## Family PSEUDIDOTHEIDAE

## Genus PSEUDIDOTHEA Ohlin

1. *Pseudidothea richardsoni* Hurley

Hurley, 1957: 15–17, figs. 74–91.

Cook Strait.

<sup>2</sup> The pleon profile of a recently examined immature specimen from Lyttelton Harbour, doubtfully referred to *A. fusiformis*, suggests that *fusiformis* may be a synonym of *A. tuberculata*.

## Family IDOTEIDAE

## Genus ZENOBIANA Stebbing

1. *Zenobiana tubicola* (Thomson)

Thomson, 1885: 577. Thomson, 1889: 264-5, pl. 14, figs. 5-8. Chilton, 1890: 203-204. Chilton, 1892a: 265. Nierstrasz, 1941: 265.  
Auckland; Waipapa Point.

## Genus PARIDOTEA Stebbing

1. *Paridotea unguilata* (Pallas)

Thomson, 1883: 332. Chilton, 1890: 196-198. Stebbing, 1902: 53-55. Nierstrasz, 1917: 113-114, figs. 43-48. Collinge, 1918: 81-82, pl. 8, figs. 24-25. \*Hale, 1924: 221, figs. 9e, f. Nierstrasz, 1941: 267.

New Zealand; Chatham Islands; Stewart Island; Auckland; Carnley Harbour, Campbell Island; Otago. "Always green in colour and is found on green seaweed."

## Genus CRABYZOS Spence Bate

1. *Crabzyos elongatus* (Miers)

Miers, 1876a: 225. Chilton, 1883c: 517. Chilton, 1890: 198-199. Hale, 1924: 218. Nierstrasz, 1941: 268.

Auckland; Lyttelton; Akaroa; Musgrave Harbour; Port Ross; Carnley Harbour, Auckland Islands; Otago, "brown seaweeds".

## Genus EDOTIA Guerin-Meneville

1. *Edotia dilatata*<sup>11</sup> Thomson

Thomson, 1884: 235, pl. 12, figs. 9-10. Chilton, 1890: 199. Nierstrasz, 1941: 275. Auckland. (Chilton, 1890, considers this the female of *Crabzyos elongatus*. This seems unlikely.)

## Genus EUDOTEA Collinge

1. *Eudotea peronii* (Milne Edwards)

Chilton, 1890: 199-203 (pt). Chilton, 1906a: 269. Collinge, 1918: 84-85, pl. 8, figs. 32, 33. \*Hale, 1924: 214, fig. 4 e-g. Nierstrasz, 1941: 274. Chatham Islands; Waipapa Point; Moeraki; Otago, rock pools on red seaweed.

2. *Eudotea stricta* (Dana)

Chilton, 1890: 199 (part). Hale, 1924: 214-215, fig. 4 a-d. Cape Campbell; Lyttelton Harbour.

## Genus IDOTEA Fabricius

1. *Idotea festiva* Chilton

Chilton, 1885: 320-321. Chilton, 1890: 192-193. Nierstrasz, 1941: 272. Sumner, near Christchurch, under surface of a boulder at low tide.

2. *Idotea marina* Miers

Miers, 1881: 25. Chilton, 1890: 191-2. Nierstrasz, 1941: 269. Holthuis, 1949: 174-176.

New Zealand.

3. *Idotea metallica* Bosc

Miers, 1876: 92. Chilton, 1890: 193-4. Nierstrasz, 1941: 272. New Zealand; Sunday Island; Kermadec Islands.

## Genus AUSTRIDOTEA Nicholls

1. *Austridotea annectans* Nicholls

Nicholls, 1937: 118-123, figs. 1-8a. Nierstrasz, 1941: 280. Stewart Island.

2. *Austridotea benhami* Nicholls

Chilton, 1891: 131-132. Chilton, 1909: 658. Nicholls, 1937: 123-125, figs. 9-10, 132-135.

Otago Peninsula; Waitaki (? = Waitati); Blueskin Bay.

Genus **NOTIDOTEA** Nicholls1. **Notidotea lacustris** (Thomson)

Thomson, 1879c: 251. Chilton, 1890: 194–196. Chilton, 1892a: 263–5. Nicholls, 1937: 128–131, figs. 11–15; 132–135. Nierstrasz, 1941: 280.

Tomahawk Lagoon; near Dunedin; Campbell Island; Ruapuke Island; Port Pegasus, Stewart Island; West Coast Sounds of Otago; Sawyers Bay, Otago Harbour; Swampy Hill, behind Dunedin.

Genus **HOLOGNATHUS** Thomson1. **Holognathus stewarti** Filhol

Filhol, 1885: 492, pl. 53, figs. 8–9. \*Thomson, 1904: 67–69, pl. 1. Nierstrasz, 1941: 281.

Stewart Island; Timaru; Wanganui.

Tribe **FLABELLIFERA**Subtribe **ANTHURIDEA**Family **ANTHURIDAE**Genus **MESANTHURA** Barnard1. **Mesanthura maculata** (Haswell)

\*Chilton, 1883: 72–73, pl. 1, fig. 4. Barnard, 1925: 144, fig. 9b. Nierstrasz, 1941: 241.

Lyttelton Harbour, on seaweed at low tide.

Genus **LEPTANTHURA** G. O. Sars1. **Leptanthura chiltoni** (Beddard)

Beddard, 1886: 143–144. Barnard, 1925: 151. Nierstrasz, 1941: 242. Challenger Sta. 169, 37° 34' S, 179° 22' E, 700 fms.

Genus **PARANTHURA** Bate & Westwood1. **Paranthura flagellata** (Chilton)

Chilton, 1882: 172–173, pl. 8, fig. 2. Barnard, 1925: 155. Nierstrasz, 1941: 252. Lyttelton.

2. **Paranthura punctata** (Stimpson)

Thomson, 1882: 230–231. Chilton, 1906: 705. Barnard: 1925: 154. Nierstrasz, 1941: 252.

Waikare Lake; Mouth of Taieri River, East Coast of Canterbury.

Genus **CRUREGENS** Chilton1. **Cruregens fontanus** Chilton

Chilton, 1882: 175–176, pl. 10, figs. 1–12. Chilton, 1883: 88. \*Chilton, 1894: 211–218, pl. 19, figs. 1–22. Barnard, 1925: 157. Nierstrasz: 1941: 252. Eyreton; Leeston; Winchester; S. Canterbury; freshwater wells.

Subtribe **CIROLANOIDEA**Family **LIMNORIIDAE**Genus **LIMNORIA** Leach1. **Limnoria (Limnoria) quadripunctata** Holthuis

Holthuis, 1949: 167–172, fig. 2. Menzies, 1957: 127–133, figs. 10–14. \*Menzies, 1959: 25, 33c.

Auckland, Wellington, Napier (R.J.M.); Portobello (D.E.H.).

(Menzies' localities apparently represent the Chilton localities (1917) for *L. lignorum*. Because of the several very similar species, now known in this genus, to *L. lignorum* I prefer to omit the earlier N.Z. references to this species although in all likelihood most of the early records refer to *L. quadripunctata*.)

2. *Limnoria (Phycolimnoria) segnis* Chilton

Chilton, 1883: 76–77, pl. 2, fig. 1. Menzies, 1957: 182–184, fig. 37. \*Menzies, 1959: 26, 33d.

Lyttelton, Akaroa (R.J.M.); Portobello (D.E.H.).

3. *Limnoria (Phycolimnoria) stephensi* Menzies

Stephenson, 1927: 361–362. Menzies, 1957: 189–191, figs. 41–42. \*Menzies, 1959: 18, 33d.

Auckland Island, in floating "Lessonia".

## Family EURYDICIDAE

Genus *CIROLANA* Leach

(This is the common free-swimming New Zealand fish-louse genus.)

1. *Cirolana arcuata* Hale

Hale, 1925: 133–134, fig. 2. Naylor, 1961: 11–14, fig. 4.  
Chatham Islands.

2. *Cirolana australiense* Hale

Hale, 1925: 141–3, fig. 7. Naylor, 1961: 14, fig. 5.  
Chatham Islands.

3. *Cirolana canaliculata* Tattersall

Tattersall, 1921: 207–208, pl. 3, figs. 1–8. Nierstrasz, 1931: 158.

Terra Nova Sta. 134, Spirits Bay, near North Cape, 11–20 fms, bottom fauna; Terra Nova Sta. 135, Spirits Bay, plankton, 3 m.

4. *Cirolana cookii* Filhol

Filhol, 1885: 454–5, pl. 53, fig. 7. Nierstrasz, 1931: 158.  
Cook Strait.

5. *Cirolana hirtipes* Milne Edwards

Filhol, 1885: 455, pl. 53, fig. 6. Nierstrasz, 1931: 158.  
Cook Strait.

6. *Cirolana pellucida* Tattersall

Tattersall, 1921: 206–207, pl. 2, figs. 4–10. Nierstrasz, 1931: 158.

Terra Nova Sta. 86, 129, 130, off Three Kings Island, plankton, surface—3 m. Terra Nova Sta. 133, Spirits Bay, North Cape, plankton, 20 m.

7. *Cirolana quadripustulata* Hurley

Hurley, 1957: 9–10, figs. 25–38.  
Cook Strait; Palliser Bay.

8. *Cirolana rossi* Miers

Miers, 1876: 109, pl. 3, fig. 3. \*Nierstrasz, 1917: 91–4, figs. 11–17. Nierstrasz, 1931: 158.

Port Ross, Coleridge Bay (Carnley Harbour); Auckland Island; Campbell Island; Middle Island; Great Barrier Island; Otago Harbour; Akaroa.

Genus *PSUEDAEGA* Thomson1. *Pseudaega punctata* G. M. Thomson

\*Thomson, 1884: 234, pl. 12, figs. 11–13. Nierstrasz, 1917: 94–97, figs. 18–28.

Monod 1930: 140. Nierstrasz, 1931: 158.

Ocean Beach, Dunedin; New Brighton (near Christchurch); sandy beaches between tidemarks.

Genus *METACIROLANA* Nierstrasz1. *Metacirolana japonica* (Hansen)

Hansen 1890: 349–351, pl. 4, figs. 2–21. \*Tattersall, 1921: 208–209, pl. 2, figs. 11–16.

Monod, 1930: 142–143. Nierstrasz, 1931: 162.

Terra Nova Sta. 77, 89, 92, 107, 109, 110, 111, 122, 128, 129, 130, 139, 141, 142, near Three Kings Island between 34° 4'–34° 58' S, 170° 45' E–172° 18' E, plankton, 0–3 m.

Genus *EURYDICE* Leach1. *Eurydice subtruncata* Tattersall

Tattersall, 1921: 209–210, pl. 3, figs. 9–17. Nierstrasz, 1931: 148.

Terra Nova Sta. 84, 85, 86, 89, 92, 93, 106, 107, 109, 110, 111, 118, 120, 126, 127, 128, 129, 130, 139, 141 near Three Kings Island,  $35^{\circ} 4' S$ – $34^{\circ} 38' S$ ,  $171^{\circ} 19' - 172^{\circ} 20' E$ , plankton, 0–3 m.

Terra Nova Sta. 133, 135, 136, Spirits Bay, North Cape, plankton, surface.

### Family AEGIDAE

#### Genus AEGA Leach

##### 1. *Aega maorum* Filhol

Filhol, 1885: 452–3, pl. 54, figs. 2–3. Nierstrasz, 1931: 183.  
Cook Strait; Otago.

##### 2. *Aega novi-zealandiae* Dana

Dana, 1853: 767, pl. 51, figs. 2a–c. \*Tattersall, 1921: 213–214, pl. 4, figs. 11–14.  
Nierstrasz, 1931: 782.  
New Zealand; Otago; Terra Nova Sta. 96, 7 mi. E of North Cape, 70 fms. bottom fauna.

#### Genus ROCINELA Leach

##### 1. *Rocinela garricki* Hurley

Hurley, 1957: 11–13, figs. 39–49.  
Cook Strait.

##### 2. *Rocinela orientalis* Schiodte & Meinert

Chilton, 1911b: 567. Hale, 1925: 182–184, fig. 27. Nierstrasz, 1931: 184.  
Sunday Island, Kermadec Islands.

### Family CYMOTHOIDAE

(Parasitic and free-swimming fish lice.)

#### Genus NEROCILA Leach

##### 1. *Nerocila orbignyi* (Guérin)

Miers, 1876: 107. Schiodte & Meinert, 1881: 70, pl. 5, fig. 10–11. Filhol, 1885: 451–2. Chilton, 1911b: 568. \*Hale, 1926: 206–208, figs. 4–5. Nierstrasz, 1931: 125.  
Hale, 1940: 301.

Oamaru; Cook Strait; Stewart Island; Sunday Island, Kermadec Islands; Otago.

#### Genus LIVONECA Leach

##### 1. *Livoneca raynaudii* Milne Edwards

Miers, 1876: 106, pl. 3, fig. 2. Filhol, 1885: 450–1, pl. 45, fig. 6. Chilton, 1911: 309–310. Chilton, 1912: 135. \*Hale, 1926: 215–217, fig. 10. Nierstrasz, 1931: 145.

New Zealand. Otago, on flounders and ling; "Stomachs of red cod and Smooth-hound (*Mustelus*)"; Stewart Island; Antipodes Island, "on *Notothenia colbecki*"; Norfolk Island.

#### Genus CODONOPHILUS Haswell<sup>3</sup>

##### 1. *Codonophilus imbricatus* (Fabricius)

Miers, 1876: 105. Thomson, 1879a: 233. Filhol, 1885: 446–449, pls. 49, fig. 1; 55, fig. 7. Chilton, 1911b: 567. \*Hale, 1926: 223–226, figs. 15–16. Nierstrasz, 1931: 131.  
New Zealand; Sunday Island, Kermadec Islands; Campbell Island; Otago Harbour.

##### 2. *Codonophilus lineatus* (Miers)

Miers, 1876a: 227. Miers, 1876: 105–106, pl. 3, fig. 1. Filhol, 1885: 448. Thomson, 1889: 263. Nierstrasz, 1931: 132.  
New Zealand.

<sup>3</sup> Nierstrasz (1931) also records as separate species *Codonophilus novae-zelandiae* (Filhol) and *Codonophilus huttoni* (Filhol). A comparison of Filhol's original figures and descriptions with Hale's (1925) of *C. imbricatus* leave me convinced that there are no features which distinguish his *C. novae-zelandiae* from Hale's adult *C. imbricatus* and some which strongly indicate their identity—e.g., the grossness of the legs and, particularly, the peculiar wavy hind margin of the 5th pleon segment. I am equally satisfied that those features which might separate *C. huttoni* from the adult *C. imbricatus* are those Hale shows, from juveniles taken from the broodpouch of an adult female *C. imbricatus*, to be normal in the juvenile. Filhol's two species are therefore considered as synonyms of *C. imbricatus*.

## Family SEROLIDAE

## Genus SEROLIS Leach

1. *Serolis bromleyana* Suhm

Beddard, 1884: 331. \*Beddard, 1884a: 53–57, pl. 4. Beddard, 1885: 389, 390. Sheppard, 1933: 329–330, 280. Hurley, 1957: 13. Hurley, 1961: 228, pl. 1. Challenger Sta. 168, 40° 28' S, 177° 43' E, 1100 fms.; Sta. 169, 37° 34' S, 179° 22' E, 700 fms.; Cook Strait (Hurley, 1957); Chatham Rise (Hurley, 1961).

2. *Serolis latifrons* White

Miers, 1876: 117, pl. 3, fig. 3. Beddard, 1884a: 31, 44. Sheppard, 1933: 265, 278, 284.

Rendezvous Cove, Auckland Islands.

3. *Serolis paradoxa* (Fabricius)

Miers, 1876: 116–117. Beddard, 1884a: 33, pl. 5, figs. 12–14; 80. Beddard, 1885: 389, 390. Sheppard, 1933: 265, 278, 285–6.

? New Zealand.

4. *Serolis schythei* Lütken

Beddard, 1884a: 44, pl. 12, figs. 5–13. Beddard, 1885: 389, 390. \*Sheppard, 1933: 265, 278, 286–289, figs. 2b, c; 4a, b; pl. 14, fig. 1.

? New Zealand.

Family PLAKARTHRIIDAE<sup>4</sup>

## Genus PLAKARTHRIUM Chilton

1. *Plakarthrium typicum* Chilton

Chilton, 1883: 74–76, pl. 1, figs. 5a–5k. Tattersall, 1921: 215–216. Nierstrasz, 1931: 192.

Lyttelton; Terra Nova Sta. 135, Spirits Bay, North Cape, plankton.

## Family SPHAEROMIDAE

## Group HEMIBRANCHIATAE

## Genus SPHAEROMA Bosc

1. *Sphaeroma quoyanum* Milne Edwards

Dana, 1853: 779. Miers, 1876: 111. Chilton, 1912: 134. Nierstrasz, 1917: 105–106, fig. 38–39. Chilton, 1919: 11–15. \*Hale, 1929: 273–4, figs. 270–1. Nierstrasz, 1931: 192. Hurley, 1956: 717.

Auckland (Hobson's Bay); Bay of Islands; Kenepuru Sound; Queen Charlotte Sound; Hawke's Bay; mud-flats, Wanganui; Rangitoto Channel, Narrow Neck, Auckland Harbour; Wairoa; Hutt River; burrowing in sandstone or wood, frequently in brackish water.

2. *Sphaeroma obtusum* Dana

Dana, 1853: 779, pl. 52, 5a, 5b. Miers, 1876: 112. Nierstrasz, 1931: 192. Bay of Islands; ? Lyttelton; Campbell Island.

## Genus EXOSPHAEROMA (Stebbing)

1. *Exosphaeroma chilensis* (Dana)

Dana, 1853: 777, pl. 52, fig. 3a–c. Chilton, 1911: 310–311. Chilton, 1912: 135. Nierstrasz, 1931: 194. Naylor, 1961: 8–9, fig. 1b.

Auckland; Chatham Islands.

2. *Exosphaeroma falcatum* Tattersall

Tattersall, 1921: 216–7, pl. 5, figs. 1–8. Nierstrasz, 1931: 194. Terra Nova Sta. 133, Spirits Bay, North Cape, plankton.

3. *Exosphaeroma gigas* (Leach)

Dana, 1853: 775. Stebbing, 1900: 553–558, pl. 39. Chilton, 1909: 652–3. Tattersall, 1921: 216. Nierstrasz, 1931: 194. \*Barnard, 1940: 413, figs. 13 a–f. Naylor, 1961: 8, fig. 1a.

Auckland Islands; Chatham Islands; Otago; Terra Nova Sta. 133, 135, 136, Spirits Bay, near North Cape.

<sup>4</sup> The raising of the Limnoriidae to family rank leaves the genus *Plakarthrium* in an anomalous position. I have followed Richardson (1913) and restored it to family rank.

4. **Exosphaeroma lanceolatum** (White)

Stebbing, 1900: 554–555. Monod, 1931: 23, fig. 16 f–g. Nierstrasz, 1931: 195. Paterson Bay, Stewart Island; Perseverance Harbour, Campbell Island.

5. **Exosphaeroma** sp.

Barnard, 1940: 416–417, figs. 18 g–k.

Dunedin Harbour; Carnley Harbour, Auckland Island.

Genus **ISOCLADUS** Miers1. **Isocladius armatus** (Milne Edwards)<sup>12</sup>

Dana, 1853: 780. Nierstrasz, 1917: 108. \*Tattersall, 1921: 217–219, pl. 5, figs. 9–17. Nierstrasz, 1931: 196. Monod, 1931: 23–24, fig. 16c. Naylor, 1961: 9–11, fig. 2e–g.

Sandy pool between tidemarks, Motorua, Bay of Islands; Auckland; Chatham Islands.

2. **Isocladius magellanicus** Richardson

Stephensen, 1927: 363–4, fig. 26a. Nierstrasz, 1931: 197.

Auckland Island; Carnley Harbour.

3. **Isocladius spiniger** (Dana)<sup>12</sup>

Dana, 1853: 781. Miers, 1876: 113, pl. 3, figs. 4, 4a, 4b. Nierstrasz, 1931: 197.

Naylor, 1961: 9, fig. 2a–d.

Bay of Islands; Lyttelton; Chatham Islands; Otago.

Genus **CYMOODE CE** Leach<sup>5</sup>1. **Cymodoce australis** Hodgson

\*Hodgson, 1902: 245–246, pls. 33, fig. 3; 34, fig. 3. Tattersall, 1921: 220–221. Stephensen, 1927: 366–368, figs. 27–28. Monod, 1931: 24.

Carnley Harbour, Auckland Island; Perseverance Harbour, Campbell Island.

2. **Cymodoce bituberculata** Filhol

Filhol, 1885: 457, pl. 55, fig. 2. \*Tattersall, 1921: 221–2, pl. 6, figs. 9–16. Nierstrasz, 1931: 201.

Cook Strait; Stewart Island; Terra Nova Sta. 133, 135, 136, Spirits Bay, near North Cape, plankton.

3. **Cymodoce convexa** Miers

Miers, 1876: 114–115, pl. 3, fig. 6. Miers, 1876a: 229. Nierstrasz, 1931: 201. New Zealand.

4. **Cymodoce cordiforaminalis** Chilton

Chilton, 1883b: 188–9, pl. 22a, fig. 1. Lyttelton Harbour.

5. **Cymodoce granulata** Miers

\*Miers, 1876: 114, pl. 3, fig. 5. Miers, 1876a: 229. Filhol, 1885: 457, pl. 55, fig. 4. Nierstrasz, 1931: 201.

Stewart Island; New Zealand.

6. **Cymodoce hodgsoni** Tattersall

Tattersall, 1921: 219–221, pl. 6, figs. 1–8. Nierstrasz, 1931: 201.

Terra Nova Sta. 96, 7 mi. E of North Cape, bottom fauna, 70 fms.

Genus **CILICAEA** Leach1. **Cilicaea canaliculata** (Thomson)

Thomson, 1879a: 234–5, pl. 10, fig. A7. Chilton, 1911b: 568. Nierstrasz, 1931: 206. Dunedin; Lyttelton; Molyneux Bay; Middle Island; Mayor Island, Kermadec Islands.

2. **Cilicaea latreillei** Leach

Miers, 1884: 308–309. Stebbing, 1905: 36–39, pls. 3B, 8. \*Nierstrasz, 1931: 204–5, figs. 92–96.

New Zealand.

Genus **PSEUDOSPHAEROMA** Chilton1. **Pseudosphaeroma campbellensis** Chilton

\*Chilton, 1909: 654–7, figs. 15–16. Stephensen, 1927: 368, fig. 26b. Monod, 1931:

<sup>5</sup> Chilton (1911a: 132) reported finding *Cymodoce tuberculata* Haswell or a closely allied species in a plank removed from the "Terra Nova" in dock in Lyttelton in 1910, and suggests they entered the wood in Port Philip, Australia. This one record of a transient occurrence does not, I feel, warrant its inclusion in the New Zealand fauna.

25, figs. 16d–e, 17. Nierstrasz, 1931: 211.

Perseverance Harbour, Campbell Island, "mouth of a small fresh-water stream"; Auckland Islands; Paterson Bay, Stewart Island.

### Group EUBRANCHIATAE

#### Genus DYNAMENELLA Hutton

##### 1. *Dynamenella huttoni* (Thomson)

Thomson, 1879a: 234, pl. 10, fig. A6. Chilton, 1905: 272. Chilton, 1909: 657. Chilton, 1911b: 568. Stephensen, 1927: 368–9. Monod, 1931: 25. Nierstrasz, 1931: 212. Naylor, 1961: 11, fig. 3a–g.

Dunedin; Timaru; Lyttelton; Antipodes Islands; Kermadec Islands; Chatham Island; Carnley Harbour, Adams Island, Auckland Islands; Perseverance Harbour, Campbell Island. Stones at low tide.

#### Genus CYMODOCELLA Pfeffer

##### 1. *Cymodocella tubicauda* Pfeffer

Chilton, 1892a: 269. Hodgson, 1902: 243. Hodgson, 1910: 31–34. Nierstrasz, 1931: 214. Monod, 1931: 25. Akaroa; Auckland Islands.

#### Genus SCUTULOIDEA Chilton

##### 1. *Scutuloidea maculata* Chilton

Chilton, 1883: 70, pl. 1, fig. 1. Nierstrasz, 1931: 214.

Timaru, among seaweed at the north side of the breakwater; Lyttelton.

#### Genus AMPHOROIDEA Milne Edwards

##### 1. *Amphoroidea falcifer* Thomson

Thomson, 1879a: 233–234, pl. 10, fig. A5. Nierstrasz, 1931: 214.

Kaikoura Harbour; Stewart Island; Dunedin, dredged and trawled; Lyttelton.

### Group PLATYBRANCHIATAE

#### Genus PARAVIREIA Chilton

##### 1. *Paravireia typica* Chilton

Chilton, 1925: 322–324, pls. 45–47. Nierstrasz, 1931: 219.

Waipurua Creek, Chatham Islands, "probably a brackish or freshwater form".

#### Genus CASSIDINA M. Edwards

##### 1. *Cassidina typa* H. Milne Edwards

\*Milne Edwards, 1840: 224, pl. 32, figs. 10–16. \*Thomson, 1889: 264, pl. 14, figs. 1–4. Hansen, 1905: 129–131, pl. 7, fig. 6. Nierstrasz, 1917: 109, fig. 41. Tattersall, 1921: 226–227. Nierstrasz, 1931: 219. Hurley, 1957: 13.

Akaroa; Bay of Islands, on kelp from 10 fms; Blueskin Bay, Otago, from 10 fms; Cook Strait; Otago, creeping on seaweed; Terra Nova Sta. 134, Spirits Bay, near North Cape, 11–20 fms, bottom fauna.

### Tribe EPICARIDEA

#### Family BOPYRIDAE

#### Genus ATHELGES Hesse

##### 1. *Athelges lacertosus* Pike

Pike, 1961: 221–223, Fig. 1.

Petre Bay, Chatham Islands. Host: *Pagurus lacertosus* (Henderson).

### Tribe PHREATOICOIDEA

#### Family PHREATOICIDAE

Genus **NEOPHREATOCUS** Nicholls

1. **Neophreatocus assimilis** (Chilton)  
Chilton, 1884a: 89. Chilton: 1894: 186–196, pls. 16–17. \*Nicholls, 1944: 17–21, fig. 37.  
Winchester, South Canterbury; Temuka.

Genus **NOTAMPHISOPUS** Nicholls

1. **Notamphisopus benhami** Nicholls  
Nicholls, 1944: 44–49, figs. 45–46.  
Horseshoe Bay, Stewart Island.
2. **Notamphisopus dunedinensis** (Chilton)  
Chilton, 1906c: 275. Nicholls, 1944: 55–60, figs. 49–50.  
Mosgiel and Woodhaugh, Dunedin; Pyramid Creek, Otago (D.E.H.).
3. **Notamphisopus flavius** Nicholls  
Nicholls, 1944: 39–44, figs. 43–44.  
Lumsden; backwaters of Oreti River.
4. **Notamphisopus kirkii** (Chilton)  
Chilton, 1906c: 274–275. Nicholls, 1944: 49–52, fig. 47.  
Ruapuke Island, Foveaux Strait.
5. **Notamphisopus littoralis** Nicholls  
Nicholls, 1944: 31–39, figs. 41–42.  
Pounawea Reserve near Catlins Estuary.
6. **Notamphisopus percevali** Nicholls  
Nicholls, 1944: 52–54, fig. 48.  
Drummond, Southland, ? Redfern, Otautau; ? Creek, Otatava Rd (? = Otatara), Invercargill.

Genus **PHREATOCUS** Chilton

1. **Phreatocus orarii** Nicholls  
Nicholls, 1944: 9–16, figs. 35–36.  
Orari Valley, S. Canterbury.
2. **Phreatocus typicus** Chilton  
Chilton, 1883a: 89–92, pl. 4. \*Chilton, 1894: 196–200, pl. 18, figs. 1–12. Nicholls, 1944: 5–8.  
Eyreton.

Tribe **ONISCOIDEA**Family **TYLIDAE**Genus **TYLOS** Latreille

1. **Tylos neozelandicus** Chilton  
\*Chilton, 1901: 120–121, pl. 13, fig. 2. Chilton, 1910a: 288. Jackson, 1941: 9.  
Hurley, 1950: 120, figs. 9, 13.  
Lyall Bay, Wellington, "under tussocks on beach".

Family **LIGIIDAE**Genus **LIGIA** Fabricius

1. **Ligia exotica** Roux  
Van Name, 1936: 48–50, fig. 8. Jackson, 1941: 6–7. Hurley, 1950: 120.  
New Zealand.
2. **Ligia novae-zealandiae** Dana  
Dana, 1853: 739, pl. 49, fig. 2. Thomson, 1879a: 292, pl. 10A, fig. 3. \*Chilton, 1901: 107–114, pl. 11, fig. 1. Jackson, 1941: 6–7. Hurley, 1950: 120. Anderson, 1960: 541, fig. 2 a–g.  
Kermadec Islands; Stewart Island; New Zealand; Otago, under stones on rocky beaches.

## Family STYLONISCIDAE

## Genus STYLONISCUS Dana

1. *Styloiscus*<sup>6</sup> (?) *kermadecensis* (Chilton)

Chilton, 1911b: 569–570, fig. 3. Jackson, 1941: 8. Hurley, 1950: 121. Vandel, 1952: 17. Hurley, 1958: 8. Sunday Island, Kermadec Islands.

2. *Styloiscus magellanicus* Dana

Dana, 1853: 736–737, pl. 48, fig. 7. Chilton, 1909: 661. Jackson, 1941: 8. Hurley, 1950: 121. \*Vandel, 1952: 18–24, figs. 4, 7–14. Hurley, 1958: 8. Anderson, 1960: 548, fig. 4g–1. Green, 1961: 268–269.

Auckland Islands; Campbell Island.

3. *Styloiscus otakensis* (Chilton)

\*Chilton, 1901: 117–118, pl. 12, fig. 2. Stephensen, 1927: 370–371, fig. 29. Jackson, 1941: 8. Hurley, 1950: 120. Vandel, 1952: 42–47, figs. 35–39. Hurley, 1958: 8.

Omaio (East Coast, North Island); South Island; Chatham Islands; Auckland Islands, under wood or stones; Amokura Harbour, Auckland Islands, "in the forest under wood".

4. *Styloiscus phormianus* (Chilton)

\*Chilton, 1901: 115–117, pl. 12, fig. 1. Jackson, 1941: 8. Hurley, 1950: 121. Vandel, 1952: 45–51, figs. 40–44. Hurley, 1958: 8. Green, 1961: 273–274, figs. 18–19.

Canterbury, often on dead, decaying flax leaves; Kenepuru; Dunedin; Greymouth; Tolaga Bay & Potaka (East Coast, North Island).

5. *Styloiscus thomsoni* (Chilton)

Chilton, 1885a: 576. Chilton, 1886: 159–161, pl. 5. \*Chilton, 1901: 118, pl. 13, fig. 1. Stephensen, 1927: 371. Jackson, 1941: 8. Hurley, 1950: 121. Vandel, 1952: 36–42, figs. 29–34. Hurley, 1958: 8. Green, 1961: 271–273, figs. 15–17.

Rai Valley, Nelson; Auckland Islands, "under wood and stones"; Spar Bush, Southland.

## Genus NOTONISCUS Chilton

1. *Notoniscus australis* (Chilton)

Chilton, 1909: 662–664, fig. 17. \*Chilton, 1915a: 421–424, pl. 36, figs. 9–16; pl. 37, figs. 17–22. Jackson, 1941: 9. Hurley, 1950: 120, fig. 24. Hurley, 1958: 8. Green, 1961: 287–289, figs. 52–56.

Campbell Island, "on decaying wood and at roots of plants".

2. *Notoniscus helmsii* (Chilton)

Chilton, 1901: 119–120, pl. 12, fig. 3. Chilton, 1910a: 286. \*Chilton, 1915: 418–421, pl. 36, figs. 1–8. Jackson, 1941: 8. Hurley, 1950: 120, fig. 25. Vandel, 1952: 75–80, figs. 60–65. Hurley, 1958: 8.

Greymouth; Rakaia Gorge, Canterbury; Mt. Dick, near Kingston.

## Family TRICHONISCIDAE

## Genus TRICHONISCUS Brandt

i. *Trichoniscus*<sup>7</sup> (?) *commensalis* Chilton

Chilton, 1910: 191. Jackson, 1941: 8. Hurley: 1950: 121. Vandel, 1952: 17. Hurley, 1958: 8.

New Plymouth; North Island "and wider", from ants' nests.

## Family SCYPHACIDAE

## Genus ACTAECIA Dana

1. *Actaecia euchroa* Dana

Dana, 1853: 735–736, pl. 48, fig. 6. \*Chilton, 1901: 130–132, pl. 15, fig. 3. Jackson, 1941: 10. Hurley, 1950: 121, figs. 4, 29. Green, 1961: 295–301, figs. 75–90.

Sandy beaches, New Zealand; Otago; "when disturbed it rolls itself up into a ball".

<sup>6</sup> Vandel (1952) says this species "perhaps belongs to *Styloiscus*".

<sup>7</sup> Vandel (1952) considers this "very probably represents the type of a special genus, perhaps even of a special family".

2. *Actaecia ophensis* Chilton

\* Chilton, 1901: 128–129, pl. 14, fig. 1. Jackson, 1941: 10. Hurley, 1950: 121, fig. 21. 121, fig. 19.  
Timaru Beach, under seaweed at highwater mark; Quail Island, Lyttelton Harbour.

Genus *SCYPHONISCUS* Chilton1. *Scyphoniscus magnus* Chilton

Chilton, 1909: 665–666, fig. 18. Jackson, 1941: 10. Hurley, 1950: 121.  
Perseverance Harbour, Campbell Island, "abundant on shore about highwater mark"; Ewing Island, Auckland Islands.

2. *Scyphoniscus waitatensis* Chilton

\* Chilton, 1901: 128–129, pl. 14, fig. 1. Jackson, 1941: 10. Hurley, 1950: 121, fig. 21.  
Blueskin Bay, Otago, under seaweed at highwater mark; Waitati; Heathcote Estuary; Anita Bay, Milford Sound.

Genus *SCYPHAX* Dana1. *Scyphax ornatus* Dana

Dana, 1853: 734–736, pl. 48, fig. 5. \* Chilton, 1901: 123–126, pl. 14, fig. 2; pl. 15, fig. 1. Jackson, 1941: 9. Hurley, 1950: 121, fig. 23.  
Sandy shores, North Island; Westport.

Genus *DETO* Guerin1. *Deto aucklandiae* (Thomson)

Thomson, 1879b: 249–250. Chilton, 1901: 126–127, pl. 15, fig. 2. Chilton, 1909: 666–668, fig. 19. \* Chilton, 1915: 445–449, pl. 39, figs. 24–30; pl. 40, figs. 31–44. Jackson, 1941: 9. Hurley, 1950: 121, fig. 26.  
Ewing Island, Auckland Islands; Amokura Harbour, Auckland Islands, "under stones on shore".

2. *Deto bucculenta* (Nicolet)

Filhol, 1885: 441–442, pl. 54, figs. 7–8. \* Chilton, 1915: 449–452, pl. 40, figs. 45–59. Jackson, 1941: 10. Hurley, 1950: 121.  
Wellington; Chatham Island; Stewart Island.

Family *ONISCIDAE*Genus *ONISCUS* Linnaeus1. *Oniscus<sup>8</sup> cookii* Filhol

Filhol, 1885: 442, pl. 54, fig. 6. Chilton, 1901: 136. Jackson, 1941: 13.  
West Coast, South Island.

Genus *PORCELLIO* Latr.1. *Porcellio scaber* Latr.

Chilton, 1901: 139–140. \* Van Name, 1936: 226–229, figs. 127A, 128, 2, 3. Jackson, 1941: 14. Hurley, 1950: 122, fig. 15.  
Throughout New Zealand around buildings, gardens, greenhouses, rarely in native bush. This is the most common of the "common" woodlice or "slaters". Cosmopolitan; introduced into New Zealand.

Genus *PORCELLIONIDES* Miers1. *Porcellionides pruinosus* (Brandt)

Chilton, 1906a: 64–65. Chilton, 1911b: 571. \* Van Name, 1936: 238–240, figs. 127B, 133, 134A. Jackson, 1941: 14. Hurley, 1950: 122.  
Norfolk Island; Tidal lagoon, Hawke's Bay; Wellington; Sunday Island, Kermadec Islands. This is another of the now cosmopolitan exotic species.

Genus *PHALLONISCUS* Budde-Lund1. *Phalloniscus armatus* Bowley

Bowley, 1935: 56–57, pl. 8, figs. 19–24. Hurley, 1950: 122.  
Canterbury.

<sup>8</sup> This species is probably a *Phalloniscus* (Jackson) and probably *P. kenepurensis* as Chilton suggests.

2. **Phalloniscus chiltoni** Bowley

Chilton, 1909: 663. Stephensen, 1927: 372. Bowley, 1935: 51–54, pl. 7, figs. 1–12. Hurley, 1950: 122.

Auckland Islands; Adam's Island, Amokura Harbour, "under wood and stones", "under wood in the forest".

3. **Phalloniscus kenepurensis** (Chilton)

\*Chilton, 1901: 135, pl. 16, fig. 3. Bowley, 1935: 54–56, pl. 6, figs. 1–12. Jackson, 1941: 13. Hurley, 1950: 122.

Kenepuru; Stephens Island.

4. **Phalloniscus punctatus** (Thomson)

Thomson, 1879a: 232, pl. 10a, fig. 3. Chilton, 1901: 133–135, pl. 16, fig. 2. Monod, 1931: 27–28, figs. 20–24. \*Bowley, 1935: 54, pl. 5, figs. 20–24. Jackson, 1941: 13. Hurley, 1950: 122.

Dunedin; New Zealand; Chatham Islands.

Genus **PHILOSCIA** Latreille1. **Philoscia brevicornis** Budde-Lund

Budde-Lund, 1912: 374. Jackson, 1941: 12. Hurley, 1950: 124. Auckland.

2. **Philoscia fragilis** (Budde-Lund)

Chilton, 1901: 136–138 (part). Budde-Lund, 1904: 43, pl. 6, figs. 5–6. Jackson, 1941: 12. Hurley, 1950: 124. Auckland; Howick.

3. **Philoscia novae-zelandiae** Filhol

Filhol, 1855: 444, pl. 54, figs. 1, 4. Chilton, 1901: 138. Jackson, 1941: 11. Hurley, 1950: 124.

Wellington; Dunedin; Stewart Island.

4. **Philoscia oliveri** Chilton

Chilton, 1911b: 570, fig. 4. Jackson, 1941: 11. Hurley, 1950: 124. Sunday Island, Kermadec Islands.

5. **Philoscia pubescens** (Dana)

Dana, 1853: 730, pl. 48, fig. 2. Chilton, 1901: 136–138 (part). Jackson, 1941: 11. Hurley, 1950: 124.

Auckland; North Island.

Genus **ARMADILLIDIUM** Brandt1. **Armadillidium vulgare** (Latr.)

Chilton, 1901: 142–143. \*Van Name, 1936: 276–279, figs. 157–159. Jackson, 1941: 23. Hurley, 1950: 124, figs. 10, 27.

Mt Egmont; Nelson. An exotic "cosmopolitan" species found especially around dwellings and gardens.

Genus **SPHERILLO** Dana1. **Spherillo ambitiosus** Budde-Lund

Thomson, 1889: 266. \*Chilton, 1901: 144–145, pl. 16, fig. 5. Budde-Lund, 1904: 63. Chilton, 1910a: 289. Jackson, 1941: 20. Hurley, 1950: 127, fig. 11.

Greymouth; North Island; Kenepuru; South Island down West Coast to Daggs Sound; Nelson.

2. **Spherillo bipunctatus** Budde-Lund

Budde-Lund, 1904: 62. Chilton, 1910a: 289. Jackson, 1941: 20. Hurley, 1950: 126.

Lyttelton.

3. **Spherillo brevis** (Budde-Lund)

Budde-Lund, 1904: 62. Chilton, 1910a: 289. Jackson, 1941: 20. Hurley, 1950: 119.

Auckland.

4. **Spherillo danae** Heller

Heller, 1865: 134. Chilton, 1901: 145. Budde-Lund, 1904: 94. Chilton, 1910a: 290. Hurley, 1950: 126.

New Plymouth; Kapiti; Takapuna; Bay of Islands; Stewart Island; South Island.

5. *Spherillo hamiltoni* (Chilton)  
Thomson, 1893: 225–227, pl. 4. Chilton, 1901: 148–149. Jackson, 1941: 20. Hurley, 1950: 124.  
"Among dead leaves, etc.", Petane, near Napier.
6. *Spherillo macmahoni* (Chilton)  
Chilton, 1901: 149–150, pl. 16, fig. 8. Jackson, 1941: 21. Hurley, 1950: 126.  
Kenepuru, Marlborough; New Plymouth.
7. *Spherillo marginatus* Budde-Lund  
Budde-Lund, 1904: 65. Chilton, 1910a: 289. Jackson, 1941: 21. Hurley, 1950: 127.  
Auckland.
8. *Spherillo monolinus* Dana  
Dana, 1853: 719–720, pl. 47, fig. 3. Chilton, 1901: 148. Budde-Lund, 1904: 69.  
Chilton, 1910a: 290. Jackson, 1941: 21. Hurley, 1950: 126.  
Bay of Islands.
9. *Spherillo rufomarginatus* Budde-Lund  
Budde-Lund, 1904: 64, pl. 7, figs. 34–36. Chilton, 1910a: 289. Jackson, 1941: 122.  
Hurley, 1950: 127.  
Taranga (? Tauranga).
10. *Spherillo rugulosus* (Miers)  
Chilton, 1883: 73. \*Chilton, 1901: 147–148, pl. 16, fig. 7. Budde-Lund, 1904: 65.  
Chilton, 1910a: 290. Jackson, 1941: 22. Hurley, 1950: 126, fig. 28.  
Auckland Islands; Adam's Island, "under wood"; Port Ross, Carnley Harbour, "under logs"; Disappointment Island; Campbell Islands; South Island.
11. *Spherillo setaceus* Budde-Lund  
Budde-Lund, 1904: 89. Chilton, 1910a: 290. Jackson, 1941: 22. Hurley, 1950: 126.  
Auckland.
12. *Spherillo speciosus* (Dana)  
Dana, 1853: 718–719, pl. 47, figs. 2a–d. \*Chilton, 1901: 146–147, pl. 16, fig. 6.  
Chilton, 1910a: 290. Jackson, 1941: 122. Hurley, 1950: 126.  
Chatham Islands; Bay of Islands.
13. *Spherillo spinosus* Dana  
Dana, 1853: 723, pl. 47, fig. 6. Chilton, 1901: 150. Chilton, 1910a: 289. Jackson, 1941: 23.  
Near Bay of Islands, under bark of trees.
14. *Spherillo squamatus* (Budde-Lund)  
Budde-Lund, 1904: 61. Chilton, 1910a: 289. Jackson, 1941: 61. Hurley, 1950: 126.  
Lyttelton.
15. *Spherillo tarangensis* Budde-Lund  
Budde-Lund, 1904: 67, pl. 8, fig. 9. Chilton, 1910a: 290. Jackson, 1941: 22. Hurley, 1950: 126.  
Taranga (? Tauranga); Lyttelton.

Genus *CUBARIS* Brandt

1. *Cubaris<sup>9</sup> milleri* Chilton  
\*Chilton, 1917: 327–329, pl. 13. Jackson, 1941: 16. Hurley, 1950: 126, fig. 6.  
Levin.
2. *Cubaris<sup>10</sup> suteri* Chilton  
\*Chilton, 1915: 425–426, pl. 37, figs. 24–38. Jackson, 1941: 17. Hurley, 1950: 126, fig. 3.  
Henderson, Auckland.

Genus *MERULANA* Budde-Lund

1. *Merulana canaliculatus* (Budde-Lund)  
Budde-Lund, 1904: 74. Chilton, 1910a: 290. Jackson, 1941: 18. Hurley, 1950: 126.  
Chatham Islands.

<sup>9</sup> Jackson (1941) considers this species probably belongs to a new genus.

<sup>10</sup> Jackson (1941) suggests this is probably a *Spherillo*.

2. **Merulana chathamensis** (Budde-Lund)

Chilton, 1901: 146. Budde-Lund, 1904: 75. Jackson, 1941: 18. Hurley, 1950: 126:  
fig. 20. Chatham Islands.

## KEY TO NEW ZEALAND SPECIES OF ISOPODA

The most recent classification divides the Isopoda into two suborders—the Gnathiidea and the Tetracera (or Quatuor Decapoda). With the exception of the Gnathiidea, then, in the following key all of the divisions have the rank of "Tribe". Alternative names for these are given in brackets.

## MAJOR DIVISIONS OF ISOPODA

1. Uropods hinged to sides of last pleon segment (telson) .....	2
Uropods styliform (cylindrical), not forming tail fan with telson but hinged to or near end of telson segment or absent .....	4
2. Uropods and telson together forming a tail fan. Pleopods for the most part of the swimming type	3
Uropods not forming a tail fan with the last segment but modified as a pair of covers folding under the abdomen and enclosing the pleopods .....	
3. Adult with 5 free thoracic segments and only 5 pairs (2nd-6th) of normal legs, 1st leg modified, 7th absent. Juvenile stage ("praniza" larva) parasitic on fish	
Adult stage has 7 free thoracic segments and usually 7 pairs of legs .....	
4. Aquatic species. Pleopods not modified for air-breathing	5
Terrestrial, inland and littoral species, especially leafmould dwellers. Pleopods modified for air-breathing .....	
5. Pleopods generally covered by a thin opercular plate (the modified first pair of pleopods) .....	
Pleopods never covered by an operculum .....	
6. Body more or less depressed (flattened from above as though trodden on). Species parasitic on other Crustacea but with free-swimming larval forms. Marine	
Body more or less compressed (squashed sideways or amphipod-like). Free-living freshwater species .....	

## S.O. GNATHIIDEA

KEY TO NEW ZEALAND GENERA AND SPECIES OF S.O. GNATHIIDEA  
(ADULT MALES—WHERE KNOWN)

1. Body in general shape oval; eyes large and occupying most of side of head; appendages of 2nd segment of body (pylopods) of 4 or 5 segments, slender and cylindrical .....	
Body in general shape subrectangular; eyes small, by no means occupying most of side of head; appendages of 2nd segment of body of 2 or 3 segments, 1st segment operculate, 2nd small .....	2
2. Head and first 3 body segments strongly covered with tubercles; front of head produced in short wide rostrum between mandibles; mandibles not toothed; 4th free segment of body (seg. 6) much longer than 3rd; anterior corners of head produced in long sharp lobes in front of eyes .....	
Characters not combined as above .....	3

*Thaumastognathia diceros*

*Gnathia polythrix*

3. Anterior corners of free body segments 1-3 (segs. 3-5) smooth; inner margin of posteriorly produced corners of free body segment 5 (seg. 7) smooth ..... 4  
 Anterior corners of free body segments 1-3 strongly tuberculate or jagged; inner margin of posteriorly produced hind corners of free body segment 5 (seg. 7) jagged; 3rd leg tuberculate; antenna 2 peduncle, first 2 segments tuberculate ..... *Gnathia regalis*

4. Peraeopods strongly tuberculate; anterior corners of head and spine processes along front of head above mandibles obtuse, not strongly produced ..... *Gnathia akaroensis*  
 Peraeopods not or only slightly (pr. 3) tuberculate; anterior corners of head and anterior processes quite well developed, acute ..... *Gnathia pacifica*

KEY TO FEMALES OF NEW ZEALAND SPECIES OF GNATHIIDEA (WHERE KNOWN)

1. Anterior corners of head in front of eyes well-developed into supraocular lobes; antenna 1 and 2 last segment of peduncle relatively short and stout  
 Supraocular lobes poorly developed; antenna 1 and 2, last segment of peduncle relatively slender and long ..... *Gnathia akaroensis*

*Gnathia regalis*

KEY TO PRANIZA LARVAE OF NEW ZEALAND SPECIES OF GNATHIIDEA (WHERE KNOWN)

1. Telson broadly rounded, slightly nicked between the 2 terminal setae ..... *Gnathia brachyuropus*  
 Telson sharply narrowed to acute apex ..... *Gnathia akaroensis* 2

2. Side margins of telson noticeably toothed in middle ..... *Gnathia regalis*  
 Side margins of telson not or only slightly toothed ..... *Gnathia polythrix* 3

3. Sides of head evenly convex; uropod rami have smooth outer margins except near ends ..... *Gnathia regalis*  
 Sides of head not evenly convex, tending to be sub-rectangular but widest posteriorly; uropod rami have outer margins obscurely toothed throughout their length ..... *Gnathia polythrix*

Tribe ASELLOTA

KEY TO SUBTRIBES OF TRIBE ASELLOTA

1. Male, first pair of pleopods coupled along midline, consisting of an elaborate sympod without rami; second pair coupled with first pair. Female, first pair of pleopods missing; second fused along midline to form large operculum covering rest of pleopods ..... *PARASELLOIDEA*  
 Male, first pair of pleopods consisting of short sympod and short ramus, neither coupled with second pair. Female, first pair of pleopods small, not covering completely the remaining pleopods ..... *ASELLOIDEA*

2. Male first pleopods, sympods free. Female, first pair of pleopods with sympod and a single ramus ..... *STENETRIOIDEA*  
 Male first pleopods, sympods fused. Female, first pair of pleopods fused to form a small operculum ..... (one species, *Stenetrium fractum*)

KEY TO N.Z. FAMILIES OF THE SUBTRIBE PARASELLOIDEA

1. None of legs modified for swimming ..... 4  
 Some of legs modified for swimming ..... 2

2. Only legs 5-6 paddle-like, 7th a simple walking leg ..... *Ilyarachnidae*  
 Legs 5-7 inclusive paddle-like ..... 3

KEY TO N.Z. GENERA OF FAMILY LANIRIDAE

1. Last leg has 3 claws. Minute, commensal on Sphaeromimid isopods, usually on ventral surface between legs and on pleopods ..... *Iais*  
 Last leg has 2 claws. Free-living ..... *Ianira*

## Subtribe PARASELLOIDEA

## Family IANIRIDAE

## KEY TO NEW ZEALAND SPECIES OF *IANIRA*

1. Uropods, peduncle and rami cylindrical ..... *Ianira neglecta*  
 Uropods, peduncle subtriangular, rami not cylindrical, wide ..... *Ianira longicauda*

## KEY TO NEW ZEALAND SPECIES OF *LAIS*

1. Uropods, outer ramus half length of inner ..... *Iais pubescens*  
       Uropods, rami subequal ..... *Iais californica*

## Family JAEROPSIDAE

## KEY TO NEW ZEALAND SPECIES OF JAEROPSIS

1. Telson margins with one or more serrations ..... *Jaeropsis curvicornis*  
 Telson margins entire, not serrated ..... *Jaeropsis palliseri*

## Family ANTIASIDAE

## KEY TO NEW ZEALAND SPECIES OF ANTIAS

1. Uropods uniramous; head strongly produced forward between antennae ..... *Antias unirameus*  
 Uropods biramous; head not strongly produced forward ..... *Antias hispidus*

## Family MUNNIDAE

## KEY TO NEW ZEALAND GENERA OF MUNNIDAE

1. Pleotelson bulbous, pear-shaped ..... *Munna*  
 Pleotelson flattened, wider than long ..... *Paramunna*  
 (one species, *P. serrata*)

## KEY TO NEW ZEALAND SPECIES OF MUNNA

1. Body segments of more or less equal width throughout, not noticeably narrowed behind 4th segment; first leg in male large and strong and of peculiar shape, segments 3 and 5 particularly widened, the latter mallet-shaped, segments 6 and 7 much smaller  
Body segments narrowing sharply posterior to noticeable division between 4th and 5th segments; first leg in male normal ..... *Munna neozelanica*
2. Body segments narrowing sharply posterior to noticeable division between 4th and 5th segments; first leg in male normal ..... *Munna schauinslandii*

## KEY TO NEW ZEALAND GENERA OF FAMILY EURYCOPIDAE

1. Pleon jagged, body spiny ..... *Storthyngura*  
Pleon smooth, body smooth ..... *Eurycope*

## KEY TO NEW ZEALAND SPECIES OF STORTHYNGURA

1. Pleon has two pairs of lateral spines, a short wide bifurcate spine medially at end of pleon ..... *Storthyngura furcata*  
Pleon has 2 or 3 pairs of lateral spines, a narrow acute end spine ..... 2
2. Head and first body segment lack dorsal spines ..... *Storthyngura novae-zelandiae*  
Head and first body segment have spines or tubercles dorsally ..... 3
3. Pleon has 3 pairs of long lateral spines, an acute medial end spine ..... *Storthyngura benti*  
Pleon has 2 pairs of short lateral spines, a short medial end spine ..... *Storthyngura pulchra*

## KEY TO NEW ZEALAND SPECIES OF EURYCOPE

1. Head produced in strong wide rostrum between antennae; first 4 segments of body very constricted in middle ..... *Eurycope madseni*  
Head not produced in rostrum between antennae; first 4 segments of body not greatly constricted in middle ..... 2
2. Uropod outer ramus very short ..... *Eurycope galathea*  
Uropod outer ramus as long as inner ..... *Eurocope nodifrons*

## Family ISCHNOSOMIDAE

## KEY TO NEW ZEALAND SPECIES OF ISCHNOMESUS

1. Body smooth; pleon margins entire, smooth; mandible has 3-segmented palp; male 2nd pleopod has very long penial segment, longer than pleopod itself ..... *Ischnomesus bruuni*  
Body covered with tubercles; pleon margins very jagged; male 2nd pleopod has normal penial segment, not nearly as long as pleopod itself; mandible palp absent ..... *Ischnomesus spärcki*

## Tribe VALVIFERA

## KEY TO FAMILIES OF TRIBE VALVIFERA

1. Uropod ramus small. Pleopod 1 often modified in male. A single penial process  
Uropod ramus large. Pleopod 1 never modified in male. Usually a pair of penial processes. Body depressed. Legs more or less prehensile, the anterior four pairs often subchelate ..... 2
2. Body narrow, cylindrical, rarely depressed. Anterior 4 pairs of legs directed forwards, not prehensile, slender, with long setae ..... *Idoteidae*  
Body broad, depressed. Anterior 4 pairs of legs normal, prehensile, not setose ..... *Astacillidae*  
*Pseudidotheidae*  
(one species, *Pseudidothea richardsoni*)

## KEY TO GENERA OF FAMILY ASTACILLIDAE (ARCTURIDAE)

1. Antenna 2, flagellum of 2 or 3 short segments with claw at end	2
Antenna 2, flagellum long, of considerably more than 3 segments, lacks claw at end	<i>Antarcturus</i>
2. Antenna 2, flagellum of 2 segments; male 1st pleopod has secondary lobe on inside of outer branch; 1st leg has claw at end of 7th segment	<i>Pseudarcturella</i> (one species, <i>P. chiltoni</i> )
Antenna 2, flagellum of 3 segments; male 1st pleopod lacks secondary lobe on inside of outer branch	<i>Astacilla</i>

## KEY TO NEW ZEALAND SPECIES OF ASTACILLA

1. Body smooth	2
Body tuberculate or spined	3
2. Uropod secondary (smaller) ramus has 1 long apical seta	<i>Astacilla falclandica</i>
Uropod secondary ramus has 3 long apical setae	<i>Astacilla levis</i>
3. Tubercles on 4th segment of body at both ends of segment, absent from middle	<i>Astacilla tuberculata</i>
Tubercles on 4th segment of body in middle of segment and posteriorly, not anteriorly	<i>Astacilla fusiformis</i>

## KEY TO N.Z. SPECIES OF ANTARCTURUS

1. Eyes entirely or almost entirely absent; anterior margin of head deeply excavate between antennae; posterior legs, segments 4 and 5 each almost as long as segment 3	<i>Antarcturus myops</i>
Eyes present; anterior margin of head only shallowly excavate between antennae; posterior legs, segments 4 and 5 together barely longer than segment 3	<i>Antarcturus abyssicola</i>

## KEY TO N.Z. GENERA OF FAMILY IDOTEIDAE

1. Mandible palp has 3 segments	<i>Holognathus</i> (one species, <i>H. stewarti</i> )	2
Mandible palp absent, or not of 3 segments		2
2. Palp of maxillipeds has 4 segments		3
Palp of maxillipeds has 5 or 6 segments		5
3. Pleon of 3 segments	<i>Idotea</i>	4
Pleon of less than 3 segments		
4. Uropod peduncle has small spine distally; outer ramus very small and setose, inner large and lamellar, the whole together like a mitten in which the outer represents the thumb, the inner the hand	<i>Notidotea</i> (one species, <i>N. lacustris</i> )	
Uropod not as above	<i>Euidotea*</i>	
5. Antenna 2, flagellum very short, of 1-3 segments	<i>Zenobiana</i> (one species, <i>Z. tubicola</i> )	6
Antenna 2, flagellum well developed and of numerous segments		
6. Coxal (side) plates fused with body segments	<i>Crabzyos</i> (one species, <i>C. elongatus</i> )	7
Coxal plates free on segments 2-7		
7. Uropods have both rami present	<i>Austridotea</i>	
Uropods have only one ramus	<i>Paridotea</i> (one species, <i>P. unguilata</i> )	

\* That the uropod of *Euidotea* differs from *Notidotea* is pure supposition; however, in the absence of any other characteristic feature which might separate the two genera in their systematic accounts I have assumed a difference in the uropods. If there is not then it would seem that *Notidotea* is too similar to *Euidotea* to retain its identity.

## KEY TO N.Z. SPECIES OF IDOTEA

1. Telson, end margin truncate (squared off) ....
- Telson, end rounded ....
- Telson, end produced in middle to sharp point, slightly hollowed-out either side of point ....

*Idotea metallica**Idotea festiva**Idotea marina*

## KEY TO N.Z. SPECIES OF EUDOTEAE

1. Coxal plates large, those of segment 7 extending back behind segment ....
- Coxal plates small, those of segment 7 not reaching hind margin of segment ....

*Eudotea peronii**Eudotea stricta*

## KEY TO N.Z. SPECIES OF AUSTRIDOTEAE

1. Telson distally pointed; uropod inner ramus distally rounded, plumose setae along end and one margin ....
- Telson distally rounded; uropod inner ramus distally truncate, plumose setae only on truncate end ....

*Austridotea annectans**Austridotea benhami*

## Tribe FLABELLIFERA

## KEY TO THE N.Z. FAMILIES OF FLABELLIFERA

1. Body narrow, cylindrical. Uropod with outer ramus arching dorsally over the telson ....
- Body normal, depressed. Uropod, outer ramus lateral ....
2. Body flat and thin, oval and disc-like. Peduncle segments of both antennae expanded into flattened plates to form, together with coxal plates and uropod rami, a continuous ring of outer plates around body ....
- Body and antennae not as above ....
3. Pleon usually composed of 6 segments ....
- Pleon composed of 2-4 segments ....
4. Uropod outer ramus rudimentary, more or less claw-shaped. Boring in piles and floating timber and algal holdfasts ....
- Uropod with both rami well developed, usually plate-like ....
5. Maxilliped palp free, margins of last 2 segments more or less setose, never armed with hooks ....
- Maxilliped palp embracing the cone formed by the mouthparts; apex armed with hooks, never setose ....
6. Body symmetrical. Both antennae with well-defined peduncles and flagella. Pleopods setose. Rami of uropod large, more or less foliaceous (leaf-like) ....
- Body often distorted. Both antennae reduced, without clear distinction between peduncle and flagellum. Pleopods not setose. Rami of uropod long or short but always narrow ....
7. Pleon of 2 segments. Uropod inner ramus immovable ....
- Pleon of 4 segments. Both rami of uropod movable. Body trilobite-like in shape ....

Family ANTHRIDAE

Family PLAKARTHIIDAE  
(one species, *Plakartrium typicum*)

2

3

4

7

Family LIMNORIIDAE

5

Family EURYDICIDAE

6

Family AEGIDAE

Family CYMOTHOIDAE

Family SPHAEROMIDAE

Family SEROLIDAE

## KEY TO N.Z. GENERA OF FAMILY ANTHRIDAE

1. Mouthparts normal (lower lip with rounded lobes, mandible with toothed cutting-edge, maxilla 1 with conspicuous spine-teeth). Statocysts paired. Maxilliped has five segments ....

*Mesanthura*  
(one species, *M. maculata*)

Mouth-parts modified (lower lip with acute lobes, mandibles apically acute, maxilla 1 slender, lance-like). Sometimes a single statocyst but usually none. Maxilliped has 3 or 4 segments	2
2. With single statocyst. Maxilliped palp has 3 segments	
No statocyst	
3. Maxilliped has 3 segments. Marine and freshwater	3
Maxilliped has 2 segments. Freshwater	

## KEY TO N.Z. SPECIES OF PARANTHURA

1. Telson ovate-lanceolate, apex narrowly rounded. Uropod inner ramus, inner margin straight, longer than broad; outer ramus broadly ovate, outer margin distally sinuous	
Telson narrow-elongate, apex sub-truncate, finely crenulate. Uropod inner ramus ovoid, about as broad as long, inner margin convex; outer narrow-elongate, outer margin crenulate	
Paranthura <i>punctata</i>	
Paranthura <i>flagellata</i>	

## KEY TO N.Z. SPECIES OF FAMILY LIMNORIIDAE

1. Wood-borer. Pleon, fifth segment has X-shaped keel in midline; pleotelson has pair of tubercles in midline, a second pair behind them; ant. 2 flagellum has 5 segments, mandibular palp has 3	
Algar-borers. Pleon and pleotelson sculpturing not as above	
2. Pleon, fifth segment has median long keel apparently broken in middle; pleotelson has transverse ridge anteriorly with swollen tubercular areas each end, a short ridge trailing behind these areas; ant. 2 flagellum has 3-4 segments, mandibular palp has 2	
Pleon, fifth segment and pleotelson have no ornamentation; ant. 2 flagellum has 4 segments, mandibular palp has 3	

## KEY TO N.Z. GENERA OF FAMILY EURYDICIDAE (Fish-lice)

1. Frontal lamina (narrow plate between antennae) somewhat dilated anteriorly, visible in dorsal view between antennae; clypeus (broad plate below frontal lamina) has anterior projection (visible in side view) hiding (in ventral view) the base of the frontal lamina	
Not at above	
2. Pleon segment 5 has free side margin. Peduncle of antenna 2 has only 4 distinct segments. Maxilliped, lobe of segment 2 without hooks. Uropod peduncle produced only slightly backwards so articulation between peduncle and inner branch short	
Pleon segment 5, side margins overlapped by those of segment 4. Peduncle of antenna 2 has at least 5 distinct movable segments. Maxilliped, lobe of segment 2 has 1 or more hooks. Uropod peduncle produced considerably backwards so articulation between peduncle and inner ramus is long	

3. Maxilla 1, inner plate has 3 setae	
Maxilla 1, inner plate has 6 setae	
Eurydice	
(one species, <i>E. subtruncata</i> )	2
<i>Metacirolana</i> <sup>13</sup>	
(one species, <i>M. japonica</i> )	
<i>Cirolana</i>	
<i>Pseudaegea</i> <sup>14</sup>	
(one species, <i>P. punctata</i> )	3

## KEY TO N.Z. SPECIES OF CIROLANA

1. Large, 40-60 mm. Two tubercles dorsally on each of segments 3 and 4 in male; 3rd abdominal segment	
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produced (in side view) back to base of uropod ..... Not large. Male lacks dorsal tubercles; 3rd abdominal segment not produced backwards to base of uropod ..... 2

2. Eyes longer than deep, extending along all or most of head in rectangular band ..... Eyes small, round ..... 3

3. Telson truncate ..... Telson subtriangular, not truncate ..... 3

4. First 5 segments of body have single distinctly impressed line or furrow across them near hind margin; 6th and 7th segments have each 2 such lines; pleopod 2, male stylet longer than rami; frontal lamina much longer than wide ..... Body segments without impressed line or tubercles, very finely punctate ..... 4

5. Pleopod 2, male stylet longer than rami; telson apex narrowly rounded; frontal lamina only a little longer than greatest width ..... Pleopod 2, male stylet no longer than rami; telson broadly rounded; frontal lamina much longer than wide ..... 5

6. Second leg, 6th segment posterior margin naked ..... Second leg, 6th segment posterior margin spined ..... 6

7. Body only slightly calcareous, semi-transparent. Telson posterior margin spined as well as setose ..... Telson posterior margin setose, not spined ..... 7

#### KEY TO N.Z. GENERA OF FAMILY AEGIDAE (Fish-lice)

1. Head with median point wholly or partly separating bases of 1st antennae. Frontal lamina usually large. Maxilliped not less than 6-segmented ..... Head more or less covering bases of 1st antennae. Frontal lamina small. Maxilliped of not more than 4 segments ..... 1

*Aega*

*Rocinela*

#### KEY TO N.Z. SPECIES OF ROCINELA

1. First leg has 9 spines on posterior margin of segment 6 ..... First leg has less than 9 spines on posterior margin of segment 6 ..... 1

*Rocinela garricki*

*Rocinela orientalis*

#### KEY TO N.Z. SPECIES OF AEGA

1. Telson broadly rounded; uropods not longer than telson; antenna 2 peduncle 4th segment cylindrical ..... Telson acutely rounded; uropods longer than telson; antenna 2 peduncle, 4th segment is triangularly expanded, much broader than 5th segment ..... 1

*Aega novi-zealandiae*

*Aega maorum*

#### KEY TO NEW ZEALAND GENERA OF FAMILY CYMOTHOIDAE (Fish-lice)

1. Head not immersed in first peraeon segment. Anterior margin of latter trilobate. Body symmetrical ..... Head immersed in first peraeon segment. Anterior margin of head not trilobate. Body often distorted ..... 1

*Nerocila*

(one species, *N. orbignyi*)

2. Antennae considerably dilated, their bases touching ..... Antennae somewhat compressed, not at all dilated, the bases of first pair widely separated ..... 2

*Codonophilus*

*Livoneca*

(one species, *L. raynaudii*)

#### KEY TO NEW ZEALAND SPECIES OF CODONOPHILUS

1. Telson almost semi-circular, with faintly raised longitudinal median line; legs of adult male not greatly thickened; head small, somewhat circular ..... Telson hind margin sinuate in adult, rarely perfectly symmetrical; legs of adult male grossly thickened; head subtriangular and somewhat rostrate in dorsal view ..... 1

*Codonophilus lineatus*

*Codonophilus imbricatus*

#### *Cirolana quadripustulata*

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#### *Cirolana cookii*

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#### *Cirolana canaliculata*

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#### *Cirolana australiense*<sup>15</sup>

#### *Cirolana arcuata*

#### *Cirolana hirtipes*

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#### *Cirolana pellucida*

#### *Cirolana rossi*

## KEY TO N.Z. SPECIES OF FAMILY SEROLIDAE

1. Small dorso-lateral portions of the tergum and of the coxal plates of the 8th thoracic segment present.  
Inner ramus of uropod absent ..... *Serolis latifrons* 2
- Inner ramus of uropod ..... *Serolis bromleyana* 3
- Tergum and coxal plates of 8th thoracic segment absent. Inner and outer rami of uropod present ..... *Serolis schythei*
2. Only first 3 thoracic segments (3rd to 5th) separated from their respective coxal plates by sutures; coxal plates of 7th thoracic segment extending considerably beyond end of telson ..... *Serolis paradoxa*
- First 4 free thoracic segments (3rd-6th) separated from their coxal plates by sutures ..... *Serolis paradoxa*
3. Coxal plates of 7th thoracic segment extend backwards in male for some distance beyond end of telson; pleural plates of 2nd abdominal segment long, extending beyond end of telson, those of 3rd segment short ..... *Serolis schythei*
- Coxal plates of 7th thoracic segment extend backwards to about middle of telson, pleural plates of 2nd and 3rd abdominal segments short, not extending far beyond the anterior margin of telson ..... *Serolis paradoxa*

## KEY TO GROUPS OF FAMILY SPHAEROMIDAE

1. Pleopods 4 and 5, one or both branches of each with deep transverse pleats or wrinkles; outer branch of at least pleopod 5 two-segmented ..... *PLATYBRANCHIATAE* 2
- Pleopods 4 and 5, both branches of each without transverse pleats or wrinkles; outer branch of each unsegmented ..... *HEMIBRANCHIATAE*
2. Pleopods 4 and 5, inner branch of each has transverse pleats or wrinkles, outer branch is thin and membranous ..... *EUBRANCHIATAE*
- Pleopods 4 and 5, both branches have transverse pleats or wrinkles ..... *EUBRANCHIATAE*

## KEY TO N.Z. GENERA OF GROUP HEMIBRANCHIATAE

1. Telson, apex in female without a notch, rounded or somewhat produced, more or less acute; in male generally as in female but sometimes much produced in the shape of a median process narrowed at its base. Mouthparts in adult female not modified ..... *Sphaeroma* 2
- Telson, apex in both sexes with a notch, usually stronger in male, frequently divided by a median lobe. Mouthparts in adult female modified (mandibles lack dark, strongly chitinised apices, other mouthparts blunted and non-setose). Maxilliped, segments 4 to 6 lobed. Pleopod 3, outer ramus has two segments. Broodplates overlapping in midline ..... *Isocladus* 4
2. Maxillipeds, segments 4 to 6 not lobed. Legs 1-3 slender, with long swimming setae. Pleopod 3, outer ramus of one segment. Uropod, outer ramus has outer margin distinctly serrated. Broodplates overlapping in midline ..... *Exosphaeroma* 3
- Maxillipeds, segments 4 to 6 lobed. Legs 1-3 without long setae. Pleopod 3, outer ramus of 2 segments. Uropod, outer ramus has outer margin not serrated or only indistinctly so. Broodplates not reaching midline ..... *Pseudosphaeroma* 4
3. Segment 7 of body is unarmed in both sexes ..... *Sphaeroma* 3
- Segment 7 of body has a dorsal process in male. Uropod outer ramus large ..... *Isocladus* 4
4. Uropod, outer ramus well developed, as large as inner ..... *Exosphaeroma*
- Uropod, outer ramus smaller than inner ..... *Pseudosphaeroma* (one species, *P. campbellensis*)

5. Uropod, both rami well developed ..... *Cymodoce*  
 Uropod, inner ramus very short ..... *Cilicaea*

KEY TO N.Z. SPECIES OF SPHAEROMA

1. Uropod, outer ramus outer margin serrated ..... *Sphaeroma quoyanum*  
 Uropod, outer ramus outer margin entire ..... *Sphaeroma obtusum*

KEY TO N.Z. SPECIES OF EXOSPHAEROMA

1. Epistome long and dorsally recurved, projecting well in front of bases of antennae when viewed dorsally, giving snub-nosed appearance; uropod outer ramus narrow, sharply pointed in male, female has outer tip strongly hooked .....  
 Not as above .....  
 2. Body smooth. Abdomen has two obsolete prominences dorsally; outer ramus of uropod lanceolate .....  
 Characters not combined as above .....  
 3. Body smooth. First segment of abdomen considerably arched above, has slight elevation grooved in middle near base of abdomen; uropod outer ramus narrow and lanceolate .....  
 Body has small punctures on dorsal surface; otherwise not as above .....  
 4. Head has nearly straight transverse frontal ridge .....  
 Head has slightly raised sinuous rim, not forming straight transverse ridge .....

<i>Exosphaeroma falcatum</i>	2
<i>Exosphaeroma chilensis</i>	3
<i>Exosphaeroma lanceolatum</i>	4
<i>Exosphaeroma gigas</i>	
<i>Exosphaeroma</i> sp.	

KEY TO N.Z. SPECIES OF ISOCLADUS

1. Uropod, outer ramus broad, with rounded end .....  
 Uropod outer ramus narrow, lanceolate, with sharp apex .....  
 2. Male, last thoracic segment has long narrow "arrow-headed" spine projecting back almost to end of telson, small tooth either side; uropods projecting beyond end of telson; appendix masculina projecting beyond inner ramus of second pleopod and separate .....  
 Male, last thoracic segment has short, blunt spine; uropod not projecting beyond end of telson; appendix masculina hardly projecting beyond inner ramus of second pleopod and not separate .....  
*Isocladus magellanicus*

<i>Isocladus magellanicus</i>	2
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<i>Isocladus spiniger</i> <sup>12</sup>
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<i>Isocladus armatus</i> <sup>12</sup>
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KEY TO N.Z. SPECIES OF CYMODOCE

1. Telson has small recurved spine dorsally .....  
 Telson smooth or granular, no recurved spine dorsally .....  
 2. Large spine on anterior segment of abdomen broad and truncate, bilobed; telson tubercle short and blunt, trilobed in dorsal view .....  
 Large process on anterior segment of abdomen narrow, truncate or acute apically, not bilobed; telson tubercle large and sharp; not trilobed in dorsal view .....  
 3. Telson smooth, not granular; has two prominent rounded bosses or tubercles .....  
 Telson without prominent bosses as above .....  
 4. Telson has 4 obscure tubercles in transverse series .....  
 Telson lacks 4 obscure tubercles in transverse series; is generally granular .....  
 5. Telson mildly granular with slightly more distinct granular boss in middle; apical notch in telson U-shaped; uropod outer ramus sharp and longer than inner .....  
 Telson strongly granular; apical notch in telson heart-shaped; uropod outer ramus rounded, no longer than inner .....  
*Cymodoce hodgsoni*

<i>Cymodoce australis</i>
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<i>Cymodoce bituberculata</i>	4
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<i>Cymodoce convexa</i>	5
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<i>Cymodoce granulata</i>
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<i>Cymodoce cordiforaminalis</i>
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## KEY TO N.Z. SPECIES OF CILICAEAE

1. Process on anterior segment of abdomen broadly truncated; apical sinus in male without central lobe ..... *Cilicaea canaliculata*  
 Process on anterior segment of abdomen rounded, not truncate; apical sinus in male has prominent central lobe ..... *Cilicaea latreillei*

## KEY TO GENERA OF GROUP EUBRANCHIATAE

1. Antenna 1, first segment expanded, protruding in front of head as large free plate ..... *Amphoroidea*  
 (one species, *A. falcifer*)

Antenna 1, first segment normal, not expanded in front of head as large free plate ..... 2

2. Uropod a large single broad oval plate ..... *Scutuloidea*  
 (one species, *S. maculata*)

Uropod not a large single broad plate ..... 3

3. Telson apex ending in two short acute teeth with notch between ..... *Dynamenella*  
 (one species, *D. huttoni*)

Telson, sides bent downwards and inwards to form a tube ..... *Cymodocella*  
 (one species, *C. tubicauda*)

## KEY TO GENERA OF GROUP PLATYBRANCHIATAE

1. Body flattened, disc-like; uropods present, biramous, marine ..... *Cassidina*  
 (one species, *C. typica*)

Body convex, capable of rolling into a ball; uropods absent, freshwater ..... *Paravireia*  
 (one species, *P. typica*)

## Tribe EPICARIDEA

## KEY TO SPECIES OF EPICARIDEA

Only one species, *Athelges lacertosi*, has been recorded. See Pike, 1961.

## Tribe PHREATOCOIDEA

## KEY TO GENERA OF N.Z. PHREATOCOIDEA\*

1. Spines below insertion of uropod ramus on to peduncle stout and simple ..... 2  
 Spine below insertion of uropod ramus toothed ..... *Notamphisopus*

2. Apex of telson squarish in side view; bases of posterior legs moderately expanded; uropod rami without spines ..... *Neophreatoicus*

Apex of telson cylindrical in side view; bases of posterior legs not expanded; uropod rami spined ..... (one species, *N. assimilis*)  
*Phreatoicus*

## KEY TO SPECIES OF PHREATOICUS

1. Gnathopod subtriangular, palm concave so considerable gap between palm and claw ..... *Phreatoicus typicus*  
 Gnathopod subovate, palm sinuous with claw more or less close-fitting against it ..... *Phreatoicus orarii*

## KEY TO SPECIES OF NOTAMPHISOPUS

1. Only one toothed spine below insertion of uropod rami ..... 2  
 Two-toothed spines below insertion of uropod rami ..... 3

\* The species of Phreatocoidea are separated by a complex of very small differences and the keys given are more of a guide to the literature than good, clear-cut diagnostic keys. They should therefore be used for final identification only in close association with Nicholls's papers (Nicholls, 1943, 1944).

2. Uropod peduncle strongly spined dorsally, ventral margin of telson segment fringed with slender closely-set setae, maxilliped palp 3rd segment ovate and nearly as broad as long .....  
 Uropod peduncle has few spines along dorsal margin, ventral margin of telson has fringe of stout widely-spaced spines; maxilliped palp 3rd segment cylindrical, noticeably narrower than long .....  
 Uropod peduncle strongly spined dorsally, ventral margin of telson has fringe of stout widely-spaced spines .....  
 3. Antenna 1, penultimate segment of flagellum noticeably longer than preceding and following segments .....  
 4. Suture on pleotelson above uropod insertion has 1 spine .....  
 Suture on pleotelson above uropod insertion has 3 or 4 spines .....

*Notamphisopus littoralis*

*Notamphisopus flavius*

*Notamphisopus percevali*

*Notamphisopus benhami*

*Notamphisopus kirkii*

*Notamphisopus dunedinensis*

### Tribe ONISCOIDEA

#### KEY TO N.Z. GENERA AND SPECIES OF ONISCOIDEA

See Hurley, 1950, for Key to genera and species; Hurley, 1958, for changes of nomenclature.

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Dr D. E. HURLEY,  
N.Z. Oceanographic Institute,  
D.S.I.R.,  
P.O. Box 8009, Wellington.

#### NOTES ADDED IN PRESS

Since correcting galley proofs of this paper, opportunities have arisen to examine collections of Isopods from Canterbury collected by Dr R. Pilgrim and students, from Auckland by Professor J. E. Morton and students, and from Hawke Bay and Foveaux Strait by the N.Z. Oceanographic Institute. In addition, Dr Pilgrim has kindly drawn my attention to various points arising from field use of the keys. The following annotations refer to corresponding superscript numbers inserted in the text:—

<sup>11</sup> (Page 265.) Chilton was correct—*Edotia dilatata* Thomson is the female of the New Zealand species referred to *Crabyzos elongatus*. *Edotia* should therefore be deleted from the New Zealand faunal list.

<sup>12</sup> (Pages 270, 286.) The more material I see of *Isocladus armatus* and *I. spiniger*, the more I become convinced that they are but different stages of the same species.

<sup>13</sup> (Page 283.) *Cirolana arcuata* proves to key out here also and may perhaps belong in *Metacirolana*. The following couplet should separate *C. arcuata* from *M. japonica*:  
End margins of telson and uropod inner ramus both truncated, jagged; ant. 1 flagellum of about 6 segments only *M. japonica*  
End margins of telson and uropod inner ramus rounded; ant. 1 flagellum of about 15 segments ..... *C. arcuata*

<sup>14</sup> (Page 283.) *Pseudaega punctata* is much more easily distinguished from the New Zealand species of *Cirolana* by its remarkably leg-like uropod in which the outer ramus is cylindrical, and the inner is widely flattened with a distinct notch on its outer margin.

<sup>15</sup> (Page 284.) *Cirolana woodjonesi* Hale (Hale, 1925: 137-139, Fig. 5) is common in Hawke Bay and keys out into couplet 5 with *C. australiense* and *C. arcuata*. Although sometimes affected by preservative, the distinct reddishness of its small, round eyes is a good clue to its identity. *C. woodjonesi* differs from *C. australiense* and *C. arcuata* in having a very narrow frontal lamina. Antenna 1 has the flagellum characteristically stubby and compressed and the flagellar segments very wide and short, not thin and attenuated as in *arcuata* nor thin and compressed as in *australiense*. The flagellum barely reaches halfway along the last segment of the peduncle of antenna 2; in *australiense* it reaches right to the end of this peduncle, and in *arcuata* beyond it.





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A checklist and key to the Crusta-

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